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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,827	03/30/2005	Franz-Leo Heinrichs	2002DE137	1656
25255 7590 04/10/2007 CLARIANT CORPORATION INTELLECTUAL PROPERTY DEPARTMENT 4000 MONROE ROAD CHARLOTTE, NC 28205			EXAMINER KATAKAM, SUDHAKAR	
			ART UNIT	PAPER NUMBER
			1621	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/10/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/529,827

Applicant(s)

HEINRICHS, FRANZ-LEO

Examiner

Sudhakar Katakam

Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 12-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 14, 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/14/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Information Disclosure Statement*

1. The examiner has considered applicant's Information Disclosure Statement of 24<sup>th</sup> June 2005. Please refer to the signed copies of the PTO-1449 forms attached herewith.

### *Response to Restriction*

2. Applicant's election without traverse of claims 1-11, 14, and 19 in the reply filed on 5<sup>th</sup> Feb 2007 is acknowledged.

Claims 12-13, and 15-18 are withdrawn from consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on 5<sup>th</sup> Feb 2007.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim subject matter which applicant regards as the invention.

In the claim 1, it is unclear whether the applicant claiming a method of preparation of an ester or a partial ester by reacting polyhydric alcohol and mixture of carboxylic acids, or claiming a composition of an ester or a partial ester, carboxylic acids and polyhydric alcohol. Clarification is required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-2, 5-7, and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by **Hirose et al** (US 5,436,006).

The instant claims are drawn to an ester of a polyhydric alcohol and carboxylic acids, comprising at least one of a carboxylic acid radical (or a radical of a carboxylic acid mixture) having from 24 to 34 carbon atoms and at least one of a carboxylic acid radical (or a radical of a carboxylic acid mixture) having from 8 to 22 carbon atoms. Further limitation includes that the polyhydric alcohol has from 3 to 12 hydroxy groups, the ester further comprises at least one of a dicarboxylic acid radical (or the radical of the dicarboxylic acid mixture) derived from adipic acid, dodecanedioic acid, or dimer fatty acid, and the ester having a hydroxy number of from 5 to 400.

**Hirose et al** disclose an ester of a polyhydric alcohol, viz., glycerol (3 hydroxy groups), and carboxylic acids, comprising of a fatty acid having 6 to 14 carbon atoms and a fatty acid having 15 to 28 carbon atoms [see Abstract]. **Hirose et al** further disclose that the esterification further having a dibasic acid, viz., adipic acid [col. 2, lines 48-52]. The resultant esterification product has a hydroxyl value of 78 [col. 5, lines 20-22].

***Claim Rejections - 35 USC § 103***

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7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1-11, 14, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hirose et al** (US 5,436,006) in view of **Snel et al** (US 4,274,988) and **Werner et al** (US 4,581,387).

The instant claims are drawn to an ester of a polyhydric alcohol and carboxylic acids, comprising at least one of a carboxylic acid radical (or a radical of a carboxylic acid mixture) having from 24 to 34 carbon atoms and at least one of a carboxylic acid radical (or a radical of a carboxylic acid mixture) having from 8 to 22 carbon atoms. The ester as claimed wherein the polyhydric alcohol is pentaerythritol. The ester further comprises at least one of a dicarboxylic acid radical (or the radical of the dicarboxylic acid mixture) derived from adipic acid, dodecanedioic acid, or dimer fatty acid, and the ester having an acid number of from 5 to 400, and the hydroxy number of from 5 to 400.

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Further limitation includes a plastic processing aid, a dispersing agent for a pigment comprising of an ester, and a pigment comprising a dispersing agent, wherein the dispersing agent is an ester.

**Hirose et al** teach an ester of a polyhydric alcohol, viz., glycerol (3 hydroxy groups), and carboxylic acids, comprising of a fatty acid having 6 to 14 carbon atoms and a fatty acid having 15 to 28 carbon atoms [see Abstract]. **Hirose et al** also teach that in their esterification further having a dibasic acid, viz., adipic acid [col. 2, lines 48-52]. The resultant esterification product has an acid value of 0.6, saponification value of 318, and hydroxyl value of 78 [col. 5, lines 20-22].

The difference between the instant invention and **Hirose et al** is that in the instant invention the polyhydric alcohol is pentaerythritol, whereas the **Hirose et al** teach using glycerol in the ester. Other difference is that Hirose et al fails to teach the method of use of the ester in a plastic processing aid, and as dispersing agent.

With regard to the pentaerythritol, **Snel et al** teach an ester of a fatty acids, viz., mixture of Iso-stearic acid (18 carbon atoms) and montanic acid (28 carbon atoms) with a pentaerythritol [see Example I].

With regard to a plastic processing aid and a dispersing agent, **Werner et al** teach mold release agent (processing auxiliary agent) for plastics, which mold release agent contains mixed esters of montanic acid, polyols and carboxylic acids with at least 10, preferably 14 to 25 carbon atoms [col. 1, lines 12-18 & col. 2, lines 21-46].

The preparation or composition of esters, from polyhydric alcohol and mixture of carboxylic acids, and their method of use is known in the art. **Hirose et al** teach an ester of a polyhydric alcohol, and carboxylic acids, comprising of a fatty acid having 6 to

14 carbon atoms and a fatty acid having 15 to 28 carbon atoms. **Snel et al** teach preparation of a fatty acid ester by reacting a mixture of Iso-stearic acid (18 carbon atoms) and montanic acid (28 carbon atoms) with a pentaerythritol. **Werner et al** teach mold release agent (processing auxiliary agent) for plastics, which mold release agent contains mixed esters of montanic acid, polyols and carboxylic acids with at least 10, preferably 14 to 25 carbon atoms.

Therefore, in view of explicit teachings of **Hirose et al**, **Snel et al**, and **Werner et al**, the examiner purports that it would have been obvious to a person of ordinary skill in the art, at the time of invention was made, to have modified the references teachings by using an alternative polyhydric alcohol, such as pentaerythritol, in the production of ester, with a reasonable expectation of success. Also a person having ordinary skill in the art would have employed or explored the applications of esters as a plastic processing aid or dispersing agent that provide the most desirable results.

Changing such parameters is prima facie obvious because an ordinary artisan would be motivated to optimize the ester preparation to make the process more economical or efficient by using **Hirose et al**, **Snel et al**, and **Werner et al** teachings with a reasonable expectation of success, since it is within the scope to modify the conditions through the routine experimentation.

### ***Conclusion***


10. No claim is allowed.
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sudhakar Katakam whose telephone number is 571-272-9929. The examiner can normally be reached on M-F 8:30 AM - 5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman Page can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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